

REMARKS

Claims 17-24, 34-38, 40, 42-44 and 48-54 are currently pending in this application. In the Office Action of September 15, 2010 all of the claims were rejected.

In particular, claims 42-44 stand rejected under 35 U.S.C. § 102(b) as allegedly being unpatentable over U.S. Patent Application Publication No. 2001/0032696 to Debalme et al. (“Debalme et al.”). Claim 48 stands rejected under U.S.C. § 102(b) or, in the alternative, under U.S.C. § 103(a) as allegedly being unpatentable over Debalme et al. Claims 17-24 stand rejected under U.S.C. § 103(a) as allegedly being unpatentable over Debalme et al. alone or in view of WO 02/070806 to Loubinoux (“Loubinoux”). Claims 34-38 and 40 stand rejected under U.S.C. § 103(a) as allegedly being unpatentable over Debalme et al. in view of U.S. Patent Application Publication No. 2005/0118390 to Wagner et al. (“Wagner et al.”) or U.S. Patent No. 6,407,018 to Zafiroglu (“Zafiroglu”). Claims 49, 51 and 52 stand rejected under U.S.C. § 103(a) as allegedly being unpatentable over Debalme et al. in view of Loubinoux. Claim 50 stands rejected under U.S.C. § 103(a) as allegedly being unpatentable over Debalme et al. Claims 53 stands rejected under U.S.C. § 103(a) as allegedly being unpatentable over Debalme et al. alone or in view of Loubinoux. Claims 54 stands rejected under U.S.C. § 103(a) as allegedly being unpatentable over Debalme et al. in view of Wagner et al. or Zafiroglu.

Rejections under 35 U.S.C. § 102(b)/ § 103(a)

By way of overview, claims 17, 34 and 42 are the independent claims. By this Amendment, independent claims 17, 34 and 42 have been amended to further clarify the invention. Support for the claim amendments can be found throughout the specification, for example page 5, lines 31-39 and Examples 1 and 2.

Claim 17:

Claim 17 has been amended to further clarify various features of the recited deformable mat. As amended, claim 17 recites, among other things, “wherein said mat has a weight per unit area from 1500 to 3000 g/m²” and “wherein said mat has a mean thickness of approximately 3.5 to 6.5 mm.” In view of the amendment of independent claim 17, it is

respectfully submitted that the unique combination of features recited in claim 17 is neither taught nor suggested by the art of record, alone or in combination.

Debalme et al. does not teach or suggest a deformable mat having a weight per unit area from 1500 to 3000 g/m² *and* a mean thickness of approximately 3.5 to 6.5 mm as required by claim 17.

Rather, Applicant respectfully submits that Debalme et al. teaches the formation of compressed rigid strips or sheets (see, e.g. paragraphs [0068], [0072] and [0082]), a working example of which is disclosed as having a thickness of approximately 3 mm and a weight per unit area of 4200 g/m² (see, e.g. paragraph [0091]). Applicant respectfully submits that the strips and/or sheets formed by Debalme et al. are simply not the same as the claimed, deformable mat having a weight per unit area from 1500 to 3000 g/m² *and* a mean thickness of approximately 3.5 to 6.5 mm.

For instance, it is respectfully submitted that none of the teachings within Debalme et al. teaches or suggests a mat that has a weight per unit area from 1500 to 3000 g/m². Indeed, it is respectfully submitted that Debalme et al. is silent with respect to any teaching or suggestion of a mat that has a weight per unit area from 1500 to 3000 g/m².

In the Office Action of September 15, 2010, the Examiner asserts that a mat according to the disclosure of Debalme et al. consisting of a single layer could be selected having a weight within the range claimed in claim 17. However, the working example of Debalme et al. discloses a composite product having a thickness of approximately 3 mm and a weight per unit area of 4200 g/m² (see, e.g. paragraph [0091]). If a mat based on the disclosure in Debalme et al. were adapted to have a weight within the range of 1500 to 3000 g/m², it would clearly have a smaller thickness than the range of thicknesses required by claim 17.

Loubinoux fails to make up for these deficiencies of Debalme et al. For example, the composite sheets disclosed in Loubinoux have a thickness “generally of between a few tenths of mm and approximately 2 mm” (col. 7, lines 33-35), less than the range required by claim 17. Furthermore, the examples set forth in Loubinoux disclose a composite sheet having a thickness of 0.6 mm with a mass per unit are equal to 830 g/m² (col. 9, lines 58-61); a composite sheet having a thickness of 0.75 mm with a mass per unit are equal to 1110 g/m² (col. 10, lines 3-4); a composite sheet having a thickness of 0.6 mm with a mass per unit are

equal to 900 g/m² (col. 10, lines 66-67), none of which have a weight per unit area from 1500 to 3000 g/m² and a mean thickness of approximately 3.5 to 6.5 mm as required by claim 17.

For at least these reasons, claim 17 is patentable over the art of record, alone or in combination. It follows that claims 18-24 are also patentable over the art of record, alone or in combination, at least by virtue of their dependency from claim 17. It should also be appreciated that each of the additional claims has additional limitations that further support their allowability.

Claim 34:

Claim 34 has also been amended to further clarify various features of the recited deformable mat. As amended, claim 34 recites, among other things, that the mat is formed by depositing first and said second yarns on a moving substrate to form a web, wherein said first and second yarns are not commingled yarns.

In view of the amendment of independent claim 34, it is respectfully submitted that the unique combination of features recited in claim 34 is neither taught nor suggested by the art of record, alone or in combination.

Debalme et al. does not teach or suggest a deformable mat formed by depositing first and said second yarns on a moving substrate to form a web, wherein said first and second yarns are not commingled yarns as required by claim 34.

Applicant respectfully submits that in Debalme, a majority (e.g., greater than 80%) of the threads are commingled threads. In contrast, in the deformable mat of claim 34, the thermoplastic yarns and the reinforcing yarns are formed entirely of a thermoplastic substance and a reinforcement substance, respectively. In the deformable mat of claim 34, there are no commingled yarns. Debalme simply does not teach or even suggest a deformable mat that is formed entirely of yarns that are not commingled. Neither Wagner et al. nor Zafiroglu make up for these deficiencies of the Debalme et al. Furthermore, FR-2 500 360 does not make up for these deficiencies of Debalme et al. either. As, discussed in Debalme et al., FR-2 500 360 discloses a “noncontinuous process, according to which a number of layers of fabric are superposed and the combination of the said layers is then heated while they are being compressed in a static press.” (See, paragraph [0004]). FR-2 500 360 does not teach or suggest a deformable mat that is formed by depositing (1) at least one reinforcement

substance in the form of a first yarn consisting of reinforcement fibers and (2) at least one thermoplastic substance in the form of a second yarn consisting of thermoplastic fibers on a moving substrate to form a web, wherein said first and second yarns are not commingled yarns as required by claim 34.

For at least these reasons, claim 34 is patentable over the art of record, alone or in combination. It follows that claims 35-38 and 40 are also patentable over the art of record, alone or in combination, at least by virtue of their dependency from claim 34. It should also be appreciated that each of the additional claims has additional limitations that further support their allowability.

Claim 42:

Claim 42 has also been amended to further clarify various features of the recited deformable mat. As amended, claim 42, recites, among other things, that the “first and second yarns are a combination of chopped yarns and continuous yarns” and the mat is formed “by depositing said first and said second yarns on a moving substrate to form a web.”

In view of the amendment of independent claim 42, it is respectfully submitted that the unique combination of features recited in claim 42 is neither taught nor suggested by the art of record.

Debalme et al. does not teach or suggest a deformable mat formed by depositing a (1) first yarn including a reinforcing substance and (2) a second yarn including a thermoplastic substance on a moving substrate to form a web, where the first and second yarns are a combination of chopped yarns and continuous yarns as required by claim 42.

Rather, Applicant respectfully submits that Debalme et al. discloses the combination of either chopped or continuous fibers with a fabric to form a composite. (See, e.g. paragraphs [0024]-[0046]). Nowhere in Debalme is there any teaching or suggestion of depositing a combination of chopped yarns and continuous yarns on a moving substrate to form a web as required by claim 42.

In the Office Action of September 15, 2010, the Examiner asserts that Debalme et al. discloses a mat formed of a woven layer made from continuous filaments and a chopped fiber nonwoven layer (paragraphs [0087]-[0091]). Applicant submits that this depositing of strips of fabric on a sheet of chopped threads to form a “sandwich” (paragraph [0091], line 1) does

not teach or suggest depositing a combination of chopped yarns and continuous yarns on a moving substrate to form a web as required by claim 42.

The Examiner also asserts that Debalme et al. discloses a mat including a layer of chopped fiber nonwoven and a layer of a continuous looped filament nonwoven (paragraphs [0040]-[0047]). This depositing of one or more continuous commingled threads onto a strip of fabric formed of commingled threads (paragraph [0042]), followed by a second strip of fabric of commingled threads (paragraph [0043]) and depositing a subsequent sheet of chopped commingled threads on this second strip of fabric (paragraph [0044]) to form a strip-sheet combination (paragraph [0045]) does not teach or suggest depositing a combination of chopped yarns and continuous yarns on a moving substrate to form a web as required by claim 42.

For at least these reasons, claim 42 is patentable over the art of record. It follows that claims 43-44 and 48-54 are also patentable over the art of record at least by virtue of their dependency from claim 42. It should also be appreciated that each of the additional claims has additional limitations that further support their allowability.

In view of the above, entry and consideration of this Amendment and allowance of claims 17-24, 34-38, 40, 42-44 and 48-54 are respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

S.N. 10/577,939
Response to Office Action of September 15, 2010

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 15-0860. Please also credit any overpayments to said Deposit Account, order number 34485/04510 (26218).

Respectfully submitted,

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